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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,723	07/17/2003	Bernd Bienek	112740-846	3883

7590 11/01/2004

Bell, Boyd & Lloyd LLC
P.O. Box 1135
Chicago, IL 60690-1135

EXAMINER	
SHINGLETON, MICHAEL B	

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/622,723	BIENEK ET AL.	
	Examiner	Art Unit	
	Michael B. Shingleton	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7-17-2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 7 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Khanifar et al. US2004/0100323 (Khanifar).

Figure 11 of Khanifar discloses an apparatus for operating a transmission amplifier 110. Throughout the page labeled "1" of Khanifar, Khanifar describes the use of the power amplifier for transmitting and thus Khanifar is a transmission amplifier arrangement. The dynamic bias switch forms the voltage supply for the transmission amplifier 110 and inside of this element is an adaptive regulator that controls the values of the supply voltage to be one of at least two different values (See paragraphs [0090] and [0091]). The predistortion unit 111 is "for data values" V_{IN} in an input data stream and does compensate for nonlinearity as this is the well-known purpose of a "conventionally constructed predistorter". Paragraphs [0090] and [0091] also clearly describes the regulator interacting with the predistortion unit 111.

Claims 7-9 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by O'Flaherty et al. 6,703,897 (O'Flaherty).

Figure 3 and the relevant text of O'Flaherty disclose an apparatus for operating a transmission amplifier. As noted above the term "transmission amplifier" is taken to mean a power amplifier. As the reference to O'Flaherty is a power amplifier arrangement that is for transmission of a signal, O'Flaherty is clearly directed toward a transmission amplifier arrangement (See column 3, around line 4). Element 22 is a voltage power supply that includes an "adaptive regulator". Note that the name of this element "Variable Output Voltage PSU" sets forth an adaptive regulator, i.e. structure that can vary the supply voltage and thus element 22 controls the voltage supply. Column 3, around line 30 and column 5 around

line 15 illustrates how the predistortion unit composed of at least elements 32, 34, 26 and 28 compares the data values of both the input and the output and in combination with the look-up tables forms an error signal, i.e. difference values, to the adaptive controller/regulator. The adaptive controller then controls the voltage supply to the transmission amplifier. The overall effect is to improve linearity (See column 3, around line 50).

Claim 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Budnik 6,043,707 (Budnik) of record.

Figures 3, 5 and 8 and the relevant text of Budnik of record disclose a method for operating a transmission amplifier 6. Note that the amplifier of Budnik is a power amplifier and is applied to the antenna that is unmarked in Figure 8. Should a "considerable change in operating parameters occur" i.e. the envelope amplitude changes from high to low, then the amplifier 6 is "feed" with a bias supply voltage that is of such a high magnitude during low envelope amplitudes that the "amplifier is operating in a traditional linear mode" (See the paragraph bridging columns 6 and 7). Should the envelope amplitude changes from low to high, then the bias supply voltage is changed to a "non-linear class of operation" (See column 7, around line 25). As is well known this means that the bias supply voltage is reduced. The predistortion unit 1 with its associated feedback from the transmission amplifier and the feedback that is applied to the elements like 2 and 3, clearly compensates for data values in the input data stream so as to predistort the input signal so as to make the amplifier's response more linear. As is clear from the text noted above the "measurement values for the quality of compensation" i.e. where the envelope magnitude is low or high is used on a continuous basis to control the bias supply voltage. Note the feedback as noted above feedbacks the output of the amplifier 6 and must form a comparison, difference values so as to determine whether or not the envelope magnitude is low or high. The unmarked element "driver" forms an adaptive regulator that passes the measurement values so that the bias voltage can be changed as noted above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budnik 6,043,707 (Budnik) of record.

All the same reasoning as applied in the rejection of claims 1-4 and 6 above and the following: Clearly, the predistorter of Budnik inputs the data values of the input data stream and the fed-back data values via path 209. While it is clear that some sort of comparison is done on at least one of these signals to determine the envelope magnitude, Budnik is silent on whether both of these values are used to determine the envelope value. It is important to note that in the other feedback path that is connected to element 52, the envelope values are detected via both the input data stream and the fed-back the data values.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used both the input data stream and the fed-back data values for "the representative means values" i.e. the result of the comparison so as to represent the envelope value as Budnik teaches that the use of both input data stream and the fed-back data is an art recognized equivalent way to sense the envelope magnitude.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Osamu JP361073406A discloses a predistorter arrangement (Note Figure 1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770. The examiner can normally be reached on Tues-Fri from 8:30 to 4:30. The examiner can also be reached on alternate Mondays. The examiner normally has the second Mondays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS
October 22, 2004

MICHAEL B SHINGLETON
PRIMARY EXAMINER
GROUP ART UNIT 2817